



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
22.03.2006 Bulletin 2006/12

(51) Int Cl.:
A47L 9/28 (2006.01)

(43) Date of publication A2:
23.06.2004 Bulletin 2004/26

(21) Application number: **03027605.9**

(22) Date of filing: **02.12.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR
 Designated Extension States:
AL LT LV MK

(30) Priority: **17.12.2002 KR 2002080836**

(71) Applicant: **LG ELECTRONICS INC.**
Seoul (KR)

(72) Inventor: **Dan, Byung-Ju**
Seongnam
Gyeonggi-Do (KR)

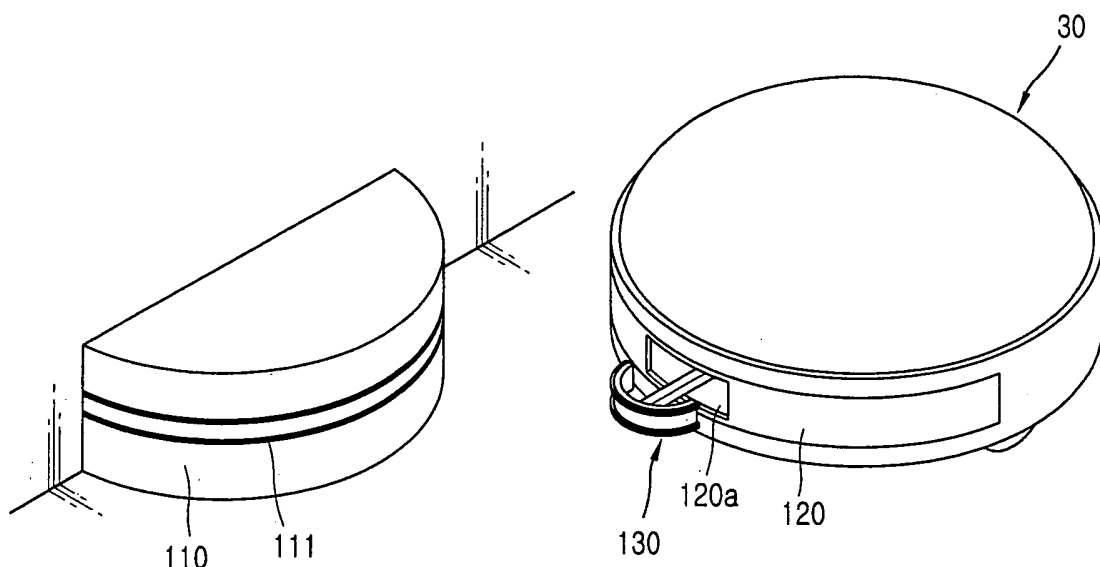
(74) Representative: **Vetter, Ewald Otto et al**
Meissner, Bolte & Partner
Anwaltssozietät GbR
(Depotstrasse 5 1/2,
86199 Augsburg),
Postfach 10 26 05
86016 Augsburg (DE)

(54) **Automatic charging device and method of automatically travelling cleaner**

(57) An automatic charging device and method of an automatically traveling cleaner are disclosed. Since a charging terminal unit is installed inside a traveling cleaner (30) and selectively drawn out, the traveling cleaner (30) is prevented from being damaged from collision with an object while being moved forwardly. In addition, be-

cause a power source terminal (111), a contact sensor unit (120) and a charging terminal unit (130) are formed in a shape of a circular arc, the entering angle of the traveling cleaner (30) widens, so that the charging induction time can be much reduced and the charging can be performed easily and quickly.

FIG. 3





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 02 7605

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 5 682 640 A (HAN ET AL) 4 November 1997 (1997-11-04) * column 1, line 52 - column 2, line 6 *	1-10	A47L9/28
A	US 5 440 216 A (KIM ET AL) 8 August 1995 (1995-08-08) * column 7, line 64 - column 9, line 54 *	1-10	
A	US 5 523 666 A (HOELZL ET AL) 4 June 1996 (1996-06-04) * column 2, line 20 - column 3, line 35 *	1-10	
A	GB 2 407 651 A (* SAMSUNG GWANGJU ELECTRONICS CO., LTD) 4 May 2005 (2005-05-04) * page 4, line 1 - page 9, line 10 *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 27 January 2006	Examiner Martin Gonzalez, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 02 7605

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-01-2006

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5682640	A	04-11-1997	KR	9700328 Y1	16-01-1997

US 5440216	A	08-08-1995	DE	4340771 A1	15-12-1994
			GB	2278937 A	14-12-1994
			JP	3006986 B2	07-02-2000
			JP	7008428 A	13-01-1995

US 5523666	A	04-06-1996	DE	4344563 C1	08-12-1994

GB 2407651	A	04-05-2005	GB	2407652 A	04-05-2005
